

REMARKS

These remarks are in response to the final office action mailed March 3, 2011.

Status of the Claims

Claims 110-122 and 126-138 are pending in the present application. Claims 110-112, 114, 130, 132, 137, and 138 are amended. Claims 113 and 122 are canceled. Claims 115-121, 126, 128, 129, 131, and 134-136 are withdrawn.

Response to Claim Rejections Under 35 USC § 102

Claim 127 was rejected as allegedly anticipated by U.S. Patent No. 3,394,901 to Bunting (hereinafter "Bunting"). Claim 113 was rejected as allegedly anticipated by U.S. Patent No. 2,153,573 to Kinloch (hereinafter "Kinloch"). Claim 113 was rejected as allegedly anticipated by U.S. Patent No. 3,009,618 to Lerner (hereinafter "Lerner"). Claim 114 was rejected as allegedly anticipated by U.S. Patent No. 3,547,373 to Bundschuch (hereinafter "Bundschuch"). Claim 130 was rejected as allegedly anticipated by U.S. Patent No. 4,756,418 to Johanson (hereinafter "Johanson"). Claim 132 was rejected as allegedly anticipated by U.S. Patent No. 5,853,254 to Inakoshi (hereinafter "Inakoshi"). Claim 132 was rejected as allegedly anticipated by Japanese Patent No. 06040130 A to Nishitani (hereinafter "Nishitani"). Claim 138 was rejected as allegedly anticipated by U.S. Patent No. 6,812,943 to Day (hereinafter "Day").

Claim 127 recites: "[a] cassette comprising a hollow spool for holding a recording medium, said cassette further comprising a sprocket disposed inside at least a part of the spool and driveable to rotate the spool for unwinding recording medium therefrom, wherein a surface of the sprocket in contact with an interior surface of the spool comprises a plurality of protrusions that bear on the inside surface of the spool to provide an interference fit with the spool."

The Office action rejected claim 127 as allegedly anticipated by Bunting, stating (in response to earlier arguments) that the Applicant had improperly narrowed the scope of the word "cassette." Applicant respectfully disagrees. It is clear from Figure 1 of Bunting that the cassette comprises a cartridge piece 16b, film supply reel 18, and outer casing 16a. The spindle 24, which is securely attached to the projector, is not part of the cassette or cartridge. In Bunting, before the cartridge is placed in the projector, or once the cartridge has been removed from the projector, the spindle 24 will then be remote from the cartridge

since it is securely attached to the projector. Therefore it is respectfully submitted that the cartridge of Bunting is not "comprising a sprocket disposed inside at least a part of the spool and driveable to rotate the spool for unwinding recording medium therefrom."

The Applicant further submits that the Office action adopts an overly broad interpretation of the term "cassette." By the interpretation offered by the Office action, anything which the cartridge 16 is held against to close off the open bottom end would be considered part of the cartridge/cassette. One of ordinary skill in the art would not interpret the terms cassette or cartridge so broadly.

For at least these reasons, Applicant respectfully submits that claim 127 is patentably distinguishable over Bunting. Withdrawal of the rejection is respectfully requested.

Claim 113 has been withdrawn from consideration. Therefore, Applicant need not address the rejections of claim 113.

Claim 114, as amended, recites: "A cassette for a recording medium comprising a casing, wherein one region of the casing has a rib on its exterior surface, which rib is adapted to slide in a groove of a device in which the cassette can be inserted, the rib comprising a projection that projects from said rib, said projection adapted to latch into a detent of a device in which the cassette can be inserted."

The Office action rejected claim 114 as allegedly anticipated by Bundschuh. In that rejection, the Office action considered portion 100b of Bundschuh (Fig. 1) to be a projection of rib 100.

As illustrated in Figure 1 of Bundschuh, portion 100b extends in a direction perpendicular to the horizontal projection proximate to lead line 202. Therefore, if one were to consider the projection proximate to lead line 202 to be "the rib," then this projection is not "adapted to slide in a groove of a device in which the cassette can be inserted." Rather, this projection simply rests on plate 32 when the cartridge is inserted into the projector. Alternatively, should one consider portion 100a of Bundschuh as "the rib," then portion 100b does not "project from said rib," since there is a gap 104 between portions 100a and 100b.

The configuration of the cassette recited in claim 114 is advantageous in that good location and retention of the cassette in a printer are ensured. Furthermore, the

manufacturing process for embodiments of such a cassette is simplified since a relatively simple molding operation can be used to provide a projection that projects from the rib.

For at least these reasons, it is respectfully submitted that claim 114 is patentably distinguishable over Bundschuh. Withdrawal of the rejection is respectfully requested.

Claim 130, as amended, recites: "A cassette for use with a printer, the cassette comprising a body having a base portion, a top portion, and a side portion extending from the base portion to the top portion, the body housing a roll of print receiving medium having an axis of rotation extending in a first direction from the base portion to the top portion, said cassette comprising one or more ribs on an outside surface of the side portion of the cassette, at least one of the ribs being substantially channel-shaped, wherein at least one of the legs of the channel-shape is disposed at an angle of greater than 90 degree to a rib forming a base of the channel-shape." Amended claim 130 recites that the ribs are "on an outside surface of the side portion of the cassette." Claim 130 also requires that the side portion extends from the base portion to the top portion, as does the axis of rotation of the roll of print receiving medium. In other words, the sides of the cassette extend in the same direction as the axis of rotation of the roll of image receiving medium, and that the ribs which form the channel shaped portion are disposed on this side portion.

Claim 130 is patentably distinguishable over Johanson. The Office action appears to have considered the rims 14 and 16 of Johanson to be equivalent to the "ribs" of Claim 130. However, the "ribs" of Johanson are not on the "sub-portion" of the cassette, as indicated by amended Claim 130. Rather, the "ribs" of Johanson are either on a base portion or top portion of the cassette disclosed therein.

Advantageously, the positioning of the channel shaped ribs on the "side portion" of the cassette as claimed prevents axial movement of the cassette out of the printer once it is inserted. This improves printing quality since it ensures that the tape is accurately fed to the print station.

For at least these reasons, Applicant respectfully submits that claim 130 is patentably distinguishable over Johanson. Withdrawal of the rejection is respectfully requested.

Claim 132, as amended, recites: "[a] recording medium cassette comprising a casing and having a wound roll of recording medium disposed in the casing which roll can unwind

such that an end of the recording medium can exit the casing, wherein the cassette further comprises a leaf spring disposed on the casing and oriented to act on the recording medium to exert a force in a direction towards the center of the roll of recording medium, wherein the leaf spring comprises a substantially straight portion for attachment to said casing, and a curved portion disposed to act on the recording medium.” The Office action alleged that claim 132 was anticipated by Inakoshi, as well as by Nishitani.

Claim 132 has been amended to incorporate the further feature “wherein the leaf spring comprises a substantially straight portion for attachment to said casing, and a curved portion disposed to act on the recording medium.” Nishitani clearly shows that both of leaf springs 8 and 9 extend in a straight manner from a wall of the cassette (Fig. 1, Nishitani). Therefore, in Nishitani, the leaf springs do not comprise “a curved portion disposed to act on the recording medium.”

Furthermore, claim 132 is distinguishable over Inakoshi. In Inakoshi, a “ring shaped leaf spring” is disclosed (col. 2, ln 41). A ring shape is respectfully submitted to be different from a leaf spring having “a substantially straight portion for attachment to said casing, and a curved portion disposed to act on the recording medium.” Inakoshi also discloses a tape cartridge having a leaf spring interposed between the upper or lower casing parts and the ink ribbon roll (Inakoshi, col. 4, ln 35-40). However, the shape of such a leaf spring is not disclosed.

Advantageously, embodiments of claim 132 provide a leaf spring that can be easily attached to the cassette casing by virtue of the substantially straight portion, and the curved portion follows the profile of the roll of the recording medium so as to enable pressure to be smoothly applied to the recording medium without the recording medium snagging on the spring as it is drawn off the supply roll.

For at least these reasons, Applicant respectfully submits that claim 132 is patentably distinguishable over both Inakoshi and Nishitani. Withdrawal of the rejections is respectfully requested.

Claim 138, as amended, recites: “[a]n ink ribbon cassette comprising: a hollow supply spool for holding a roll of ink ribbon; and a driveable sprocket at least part of which is disposed inside the supply spool to rotate the supply spool for rewinding unwound ribbon onto the supply spool, wherein the end of the sprocket that is not disposed inside the supply

spool comprises an inner cylinder and an outer cylinder, the inner cylinder extending further in an axial direction away from the supply spool than the outer cylinder so as to bear against a biasing element of the ink ribbon cassette wherein the outer cylinder comprises a bearing surface for bearing the driveable sprocket against a surface of the cassette.” The Office action rejected claim 138 as allegedly anticipated by Day.

The Office action appears to consider reference 68 of Day to comprise an “inner cylinder” and reference 62 to comprise “an outer cylinder” (Day, Fig. 3). The Office action also appears to consider rewind sprockets 54 of Day to be equivalent to the “driveable sprocket” of claim 138. However, claim 138 recites that the ink ribbon comprises “a driveable sprocket.” In Day, the rewind sprocket 54 is part of the printer and not part of the cassette, as required by claim 138.

Claim 138 has also been amended to now recite the feature that “the outer cylinder comprises a bearing surface for bearing the driveable sprocket against a surface of the cassette.” This feature is not present in Day. In Day, the cassette receiving bay floor is shown at 74, which is spaced from sprocket gear 62, which the Office action appears to consider equivalent to “an outer cylinder.” The sprocket gear 62 does not bear against “a surface of the cassette” as required by claim 138, as amended. Advantageously, using the outer cylinder as a bearing surface ensures that the driveable sprocket and supply spool are adequately supported in the cassette.

For at least these reasons, Applicant respectfully submits that claim 138 is patentably distinguishable over Day. Withdrawal of the rejection is respectfully requested.

Response to Claim Rejections Under 35 U.S.C. § 103

Claims 110-112 and 127 were rejected as allegedly unpatentable over U.S. Patent No. 4,744,527 to Coote et al (hereinafter “Coote”) in view of U.S. Patent No. 5,812,884 to Sangregory (hereinafter “Sangregory”). Claim 122 was rejected as allegedly unpatentable over U.S. Patent No. 4,822,189 to Dobring et al. (hereinafter “Dobring”). Claim 133 was rejected as allegedly unpatentable over Coote in view of U.S. Patent No. 5,492,282 to Okuchi et al. (hereinafter “Okuchi”). Claim 137 was rejected as allegedly unpatentable over Day in view of Nishitani.

Claims 127 recites: “[a] cassette comprising a hollow spool for holding a recording medium, said cassette further comprising a sprocket disposed inside at least a part of the

spool and driveable to rotate the spool for unwinding recording medium therefrom, wherein a surface of the sprocket in contact with an interior surface of the spool comprises a plurality of protrusions that bear on the inside surface of the spool to provide an interference fit with the spool.” The Office action concedes that the “sprocket disposed inside at least a part of the spool” was not disclosed in Coote. The Office action attempted to find this feature in Sangregory. However, references 48 and 50 of Figure 1 in Sangregory illustrate that the sprocket is not a part of the film cartridge 10 but, rather, is an entirely separate entity from the film cartridge 10. Any proper combination of Coote and Sangregory by one of ordinary skill in the art would necessarily lack at least this feature of claim 127. For at least these reasons, claim 127 is patentably distinguishable over Coote in view of Sangregory. Withdrawal of the rejection is respectfully requested.

Claim 110, as amended, now recites: “A cassette as set forth in claim 127, said cassette comprising an upper casing and a lower casing, said spool for holding a roll of recording medium being disposed between the upper and lower casings, and a side casing for enclosing the spool and joining the upper and lower casings, wherein the side casing is fitted to at least one of the upper and lower casings by press-fit or snap-fit connections, wherein the upper and lower casings and the spool each have a substantially central through-hole which are substantially aligned between the parts, said sprocket being disposed in the through-hole of one of the upper and lower casings and dimensioned to extend into the through-hole in the spool for rotating the spool.” Claim 110 has been amended to depend from independent claim 127. Thus, claim 110 recites, by reference, each and every feature of claim 127. For at least those reasons described above with respect to claim 127, no proper combination of Coote and Sangregory by one of ordinary skill in the art would arrive at the cassette claimed by amended claim 110. Withdrawal of the rejection is respectfully requested.

Claims 111 and 112 depend from claim 110, which depends from claim 127, and, therefore, recite by reference: “[a] cassette comprising a hollow spool for holding a recording medium, said cassette further comprising a sprocket disposed inside at least a part of the spool and driveable to rotate the spool for unwinding recording medium therefrom, wherein a surface of the sprocket in contact with an interior surface of the spool comprises a plurality of protrusions that bear on the inside surface of the spool to provide an interference fit with the spool.” For at least those reasons discussed above with respect to claim 127, claims 111

and 112 are patentably distinguishable over Coote and Sangregory. Withdrawal of the rejection is respectfully requested.

Claim 122 is withdrawn. Therefore, Applicant need not address this rejection.

Claim 133 recites: “[a] set of cassettes for holding a recording medium, each cassette comprising an upper portion and a lower portion disposed apart a distance and joined together by attachment to a side portion having a width corresponding to the distance, thereby enabling a roll of recording medium to be held between the upper and lower portions with the width of the recording medium being oriented substantially parallel to the width of the side portion, wherein each cassette has a side portion of a different width, wherein the upper and lower portions of each cassette within the set are interchangeable with the upper and lower portions of different cassettes within the set.” In particular, this claim requires “each cassette comprising an upper portion and a lower portion disposed apart a distance and joined together with attachment to a side portion having a width corresponding to the distance.” In other words, the upper portion and lower portion are separated by a distance equal to the depth of the side portion.

The Office action concedes that Coote does not disclose “wherein each cassette has a side portion of a different width, wherein the upper and lower portions of each cassette within the set are interchangeable with the upper and lower portions of different cassettes within the set.” The Office action attempted to identify this feature in Okuchi. Applicant respectfully disagrees.

The Office action appears to consider the lid 11 of Okuchi to be the upper portion and the cassette body 10 of Okuchi to be the lower portion (Fig. 9 & 10). Likewise, in Fig. 11, the Office action appears to consider the cassette lid 11a to be the upper portion and the cassette body 10a to be the lower portion. However, the Applicant's claim 133 recites that the upper and lower portions are “disposed apart a distance.” As illustrated in Figures 9 and 10 of Okuchi, the lids 11 and 11a are in direct contact with the cassette body 10 and 10a and, therefore, are not “disposed apart a distance.”

On the other hand, if the Office action considered the base of cassette body 10 of Okuchi to be the “lower portion” and the lid 11 of Okuchi to be the “upper portion,” such an interpretation still fails to read onto claim 133. Claim 133 recites that “the upper and lower portions of each cassette within the sets are interchangeable with the upper and lower

portions of different cassettes within the set.” Using such an interpretation, the “lower portion” (base) of cassette body 10 is not “interchangeable” since it is integrally formed with the cassette body. Similar arguments apply to the structure shown in Figure 11 of Okuchi.

For at least these reasons, Applicant respectfully submits that no proper combination of Coote and Okuchi would arrive at the set of cassettes claimed in claim 133. Withdrawal of the rejection is respectfully requested.

Claim 137, as amended, recites: “[a]n ink ribbon cassette comprising: a supply spool for holding a roll of ink ribbon; a take-up spool onto which ink ribbon unwound from the supply spool is wound; a driveable sprocket arranged to rotate the supply spool about an axis of the supply spool for rewinding unwound ribbon onto the supply spool; and a spring disposed to act on the sprocket in the direction of said axis for maintaining tension of the ink ribbon between the supply and take-up spools.”

The Office action concedes that Day does not show “a spring disposed to act axially on the sprocket for maintaining tension of the ink ribbon between the supply and take-up spools.” The Office action attempts to find this feature in Nishitani. Applicant respectfully disagrees.

As illustrated in Figure 1 of Nishitani, the spring 8 does not act on a driveable sprocket of the supply spool. Likewise, leaf spring 9 acts on the outer surface of the image receiving medium and not on a driveable sprocket of the supply spool. Furthermore, the leaf spring 9 acts in a direction radially of the axis of the ink ribbon supply, and is therefore not “disposed to act on the sprocket in the direction of said axis for maintaining tension of the ink ribbon between the supply and take-up spools.”

For at least these reasons, Applicant respectfully submits that claim 137 is patentably distinguishable over Day and Nishitani. No proper combination of Day and Nishitani by one of ordinary skill in the art would arrive at the ink ribbon cassette of claim 137. Withdrawal of the rejection is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, Applicant believes the pending application is in condition for allowance. In the event that payment of any fees is necessary, kindly charge the cost thereof to our deposit account number 13-2855.

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Respectfully submitted,

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